

Tetanus, Diphtheria and Pertussis (Tdap) Vaccine

March 10, 2006

This is an update to the October 2005 MDPH Tdap Advisory

In October 2005, the Massachusetts Department of Public Health (MDPH) published an advisory outlining the *interim* recommendations for the use of tetanus, diphtheria and pertussis (Tdap) vaccine in adolescents. The *final* Advisory Council on Immunization Practices (ACIP) Recommendations for the use of Tdap Vaccine in Adolescents were published in MMWR on February 23, 2006 (<http://www.cdc.gov/mmwr/pdf/rr/rr55e223.pdf>).

This advisory includes a summary of the recommendations for use of Tdap in adolescents aged 11–18 years from Appendix C of the ACIP statement, as well as information on the availability of state-supplied Tdap vaccine.

I. Recommendations for the Use of Tdap Vaccine in Adolescents

Routine Tdap vaccination for adolescents aged 11–18 years

- Adolescents aged 11–18 years should receive a single dose of Tdap instead of Td for booster immunization against tetanus, diphtheria, and pertussis if they have completed the recommended childhood DTP/DTaP vaccination series¹ and have not received Td or Tdap. The preferred age for Tdap vaccination is 11–12 years; routinely administering Tdap to young adolescents will reduce the morbidity associated with pertussis in adolescents.
- Adolescents aged 11–18 years who received Td, but not Tdap, are encouraged to receive a single dose of Tdap to provide protection against Pertussis, if they have completed the recommended childhood DTP/DTaP vaccination series¹. An interval of at least 5 years between Td and Tdap is suggested to reduce the risk for local and systemic reactions after Tdap vaccination. However, an interval less than 5 years between Td and Tdap can be used. The benefit of using Tdap at a shorter interval to protect against pertussis generally outweighs the risk for local and systemic reactions after vaccination in settings with increased risk for pertussis or its complications (see Pertussis Outbreaks and Other Settings with Increased Risk for Pertussis or its Complications).
- Vaccine providers should administer Tdap (or Td) and tetravalent meningococcal conjugate vaccine ([MCV4] Menactra®) (which both contain diphtheria toxoid) during the same visit, if both vaccines are indicated and available (MCV4 recommendations available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5407a1.htm> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm54d1006a1.htm>)².
- Tdap (or Td) should be administered with other vaccines that are indicated during the same visit when feasible. Each vaccine should be administered using a separate syringe at different anatomic sites. Some experts recommend administering no more than two injections per muscle, separated by at least one inch.

¹ Five doses of pediatric DTP/DTaP before the seventh birthday; if the fourth dose was administered on or after the fourth birthday, the fifth dose is not needed.

² A prelicensure study demonstrated that simultaneous vaccination with Td and MCV4 was acceptably safe; the safety of simultaneous vaccination with Tdap and MCV4 has been inferred from this study. Td followed 1 month later by MCV4 was studied, and rates of local reactions were comparable to simultaneous vaccination. Other schedules of MCV4 and Td and MCV4 and Tdap have not been studied (<http://www.fda.gov/cber/label/mpdtave011405LB.pdf>)

Contraindications, precautions, and reasons to defer Tdap or Td among adolescents aged 11–18 years

- **Contraindications:** History of serious allergic reaction (i.e., anaphylaxis) to vaccine components or encephalopathy (e.g., coma or prolonged seizures) not attributable to an identifiable cause within 7 days of administration of a vaccine with pertussis components (this is a contraindication for the pertussis components; Td can be used).
- **Precautions and Reasons to Defer Vaccination:** Guillain-Barré syndrome ≤ 6 weeks after a previous dose of a tetanus toxoid-containing vaccine; progressive neurologic disorder, including progressive encephalopathy, or uncontrolled epilepsy, until the condition has stabilized (these conditions are precautions for the pertussis components; Td can be used); acute illness; and history of an Arthus type reaction after a tetanus toxoid-containing and/or diphtheria toxoid-containing vaccine administered < 10 years previously.

Reporting of adverse events after vaccination

- All clinically significant adverse events should be reported to the Vaccine Adverse Event Reporting System (VAERS), even if causal relation to vaccination is not certain. VAERS reporting forms and information are available electronically at <http://vaers.hhs.gov/> or by telephone, 800-822-7967. Providers are encouraged to report electronically at <https://secure.vaers.org/VaersDataEntryintro.htm>.

Special situations for Tdap (single dose) and Td use among adolescents aged 11–18 years

- **Nonsimultaneous vaccination:** If simultaneous vaccination is not feasible, inactivated vaccines can be administered at any time before or after a different inactivated or live vaccine. Tdap (or Td) and MCV4 vaccines (which all contain diphtheria toxoid) can be administered using any sequence. Persons who recently received one diphtheria toxoid-containing vaccine might have increased rates of adverse reactions after a subsequent diphtheria toxoid-containing vaccine when diphtheria antibody titers remain elevated from the previous vaccination².
- **Pertussis Outbreaks and Other Settings with Increased Risk for Pertussis or its Complications:** Vaccine providers can administer Tdap to adolescents aged 11–18 years at an interval less than 5 years after Td, particularly when the benefit of providing protection against pertussis is likely to be increased (e.g., pertussis outbreaks and close contact with an infant aged < 12 months). The safety of an interval as short as approximately 2 years between Td and Tdap is supported by a Canadian study among children and adolescents. Postexposure chemoprophylaxis and other pertussis control guidelines are available at the following websites:
<http://www.cdc.gov/nip/publications/pertussis/guide.htm>
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm>
- **Lack of Availability of Tdap or MCV4:** If Tdap and MCV4 are both indicated for adolescents but only one vaccine is available, the available vaccine should generally be administered.
- **Use of Td when Tdap is Not Available:** When Tdap is indicated but not available, providers should administer Td if the last pediatric DTP/DTaP/DT or Td dose was ≥ 10 years earlier to provide protection against tetanus and diphtheria. Td can be deferred temporarily when the last pediatric DTP/DTaP/DT or Td was administered < 10 years earlier and the adolescent is likely to return for follow-up. Vaccine providers should maintain a system to recall adolescents when Tdap/Td vaccination is deferred.
- **Tetanus Prophylaxis in Wound Management:** Adolescents who require a tetanus toxoid-containing vaccine as part of wound management should receive a single dose of Tdap instead of Td if they have not previously received Tdap; if Tdap is not available or was previously administered, adolescents who need a tetanus toxoid-containing vaccine should receive Td.
- **History of Pertussis:** Adolescents who have a history of pertussis generally should receive Tdap according to the routine recommendations.
- **No History of Pertussis Vaccination:** Adolescents who have not received vaccines with pertussis components but completed the recommended tetanus and diphtheria vaccination series³ with pediatric DT

³ Five doses of pediatric DT before the seventh birthday; if the fourth dose was administered on or after the fourth birthday, the fifth dose is not needed. Children who began the tetanus and diphtheria vaccination series at age ≥ 7 years required 3 doses of Td to complete the primary series.

or Td generally should receive Tdap according to the routine recommendations if they do not have a contraindication to the pertussis components.

- **No History of Pediatric DTP/DTaP or Td/Tdap Vaccination:** Adolescents who have never received tetanus-diphtheria-pertussis vaccination should receive a series of three vaccinations. The preferred schedule is a single Tdap dose, followed by a dose of Td \geq 4 weeks after the Tdap dose and a second dose of Td 6–12 months after the earlier Td dose. Tdap can be substituted for any one of the 3 Td doses in the series.
- **Vaccination during Pregnancy:** Pregnancy is not considered a contraindication for Tdap or Td vaccination. Guidance on the use of Tdap during pregnancy is under consideration by the Advisory Committee on Immunization Practices. Pregnant adolescents who received the last tetanus toxoid-containing vaccine \leq 10 years previously should generally receive Tdap in the postpartum period, according to the routine vaccination recommendations and interval guidance, and pregnant adolescents who received the last tetanus toxoid-containing vaccine $>$ 10 years previously should generally receive Td in preference to Tdap during the second or third trimester. (Please note, in the interim ACIP recommendations there was permissive language regarding the use of Tdap in pregnant adolescents during the second and third trimester.)

New!

Both Tdap manufacturers have established pregnancy registries. Health-care providers are encouraged to report Tdap vaccination during pregnancy to the following registries: BOOSTRIX[®] to GlaxoSmithKline Biologicals at 1-888-825-5249 and ADACEL[™] to sanofi pasteur at 1-800-822-2463 (1-800-VACCINE).

Adapted from: CDC. Preventing tetanus, diphtheria, and pertussis among adolescents: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP) Appendix C. MMWR Early Release 2006;55(February 23, 2006):28,37-38.

II. School Immunization Requirements

At the current time, Tdap is not required for entry into 7th grade. The requirement for Td at entry into this grade remains in effect. Tdap would satisfy this requirement.

III. Availability and Ordering of Tdap Vaccine Supplied by MDPH

MDPH is only providing state-purchased Tdap vaccine for the routine immunization of **one** cohort of children 11–12 years old (those entering 7th grade). However, state-supplied vaccine *may* also be used for: 1) adolescents 13–18 years of age who have not yet received a Td vaccine; 2) wound prophylaxis in adolescents.

State-supplied Tdap should **not** be used for: 1) adolescents 11–18 years of age who have already received Td vaccine; or 2) those at increased risk of exposure and in outbreak settings. Providers will need to use privately purchased Tdap for these groups.

Health plans and insurance carriers have been informed of the groups for whom MDPH will be supplying Tdap vaccine and the need for providers to purchase Tdap vaccine to augment their state-supplied vaccine. The Current Procedural Terminology (CPT[®]) code for both BOOSTRIX[®] and ADACEL[™] is 90715.

Please note, MDPH will continue to provide Td vaccine.

If you have questions about the recommendations for use of Tdap vaccine, school immunization requirements or the availability of state-supplied Tdap vaccine, please call the MDPH Immunization Program at 617-983-6800 or 888-658-2850.